

## DYNAMIC SHOWING RACK

### FIELD OF THE INVENTION

5 The present invention relates to a dynamic showing rack, and more particularly to a showing rack that produces turning and/or swinging movements to create a dynamic display effect to attract consumers.

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### BACKGROUND OF THE INVENTION

Most showing racks used in general shops, department stores, and malls for displaying and showing merchandise are different in shape and size, but they are normally 15 a fixed type for showing products in a static manner. Such still racks lack the ability of attracting busy consumers and therefore could not create good advertising or displaying effect. Most sellers try to highlight the showing racks using specially designed lighting and color 20 light, but it seems to have little help to do so.

### SUMMARY OF THE INVENTION

A primary object of the present invention is to provide 25 a dynamic showing rack that may be caused to turn and/or swing and thereby provides special and dynamic view to

attract consumers' attention to the products displayed on the rack.

The dynamic showing rack mainly includes four main posts, 5 each of which further includes a plurality of serially connected connecting posts, knuckles, and spindles. The knuckle has flat upper and lower sides, and a bearing mounted therein. The connecting post has two bevel end surfaces, and the spindle is extended through the bearing 10 with two ends held in the bevel end surfaces of two connecting posts separately located at upper and lower sides of the knuckle, so that two connecting posts are obliquely extended from one knuckle in different directions. A motor is connected to the spindle in one 15 of the lowest connecting posts to turn and swing the connecting post, and accordingly, all main posts of the rack to create a dynamic showing effect.

The spindle is provided near two ends at two opposite 20 sides with two recesses, and the connecting post is provided on each end surface with a fixing hole and near each end surface with a lateral screw hole communicating with the fixing hole. The spindle is held at two ends in the fixing holes on the end surfaces of two connecting 25 posts by extending screws through the lateral screw holes into the recesses on the spindle, such that the spindle

is adapted to transmit a turning force from one connecting post to a next connecting post.

5 The four main posts are interconnected with one another to form the rack by connecting crossbars to and between two opposite knuckles on the main posts, and positioning flat shelves on the crossbars for supporting products thereon.

10 Alternatively, the connecting post may have a curved body and flat end surfaces to achieve the same turning and swinging effect on the showing rack.

#### BRIEF DESCRIPTION OF THE DRAWINGS

15 The structure and the technical means adopted by the present invention to achieve the above and other objects can be best understood by referring to the following detailed description of the preferred embodiments and 20 the accompanying drawings, wherein

Fig. 1 is a perspective view of a dynamic showing rack according to a first embodiment of the present invention;

25 Fig. 2 is a fragmentary exploded perspective view showing connection of two vertical connecting posts to a knuckle

of the dynamic showing rack of Fig. 1;

Fig. 3 is an assembled sectional view of Fig. 2;

5 Fig. 4 is a perspective view of a driving mechanism working with the showing rack of Fig. 1;

Fig. 5 shows the dynamic showing rack of Fig. 1 in a swinging state;

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Fig. 6 a fragmentary exploded perspective view showing connection of two vertical connecting posts to a knuckle of the dynamic showing rack according to a second embodiment of the present invention;

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Fig. 7 is an assembled sectional view of Fig. 6;

Fig. 8 is a perspective view of the driving mechanism working with the showing rack of Fig. 6; and

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Fig. 9 shows the dynamic showing rack of Fig. 6 in a swinging state.

#### DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

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Please refer to Figs. 1, 2, and 3 at the same time. The

present invention mainly includes a plurality of knuckles 1 and connecting posts 2. Each of the knuckles 1 has flat upper and lower sides 11, 12, and is internally provided with a bearing 13. Each of the connecting posts 5 2 has two beveled end surfaces 21. Each beveled end surface 21 is provided with a fixing hole 22. A substantially lateral screw hole 23 is provided near each end of the connecting post 2 to communicate with the fixing hole 22.

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A plurality of spindles 3 in the form of round bars having a diameter slightly smaller than a central bore of the bearing 13 in the knuckle 1 are provided. Each of the spindles 3 is provided at upper and lower ends at two 15 opposite sides with two recesses 31, 32. The spindle 3 is extended through the bearing 13 with the upper and lower ends separately fitted in the fixing holes 22 of an upper and a lower connecting post 2, respectively, so that the flat upper and lower sides 11, 12 of the knuckle 20 1 contact with the beveled end surfaces 21 of the upper and the lower connecting posts 2. In this manner, the two connecting posts 2 would obliquely extend from the knuckle 1 in two different directions. Screws 4 are then threaded into the screw holes 23 on the connecting posts 25 2 to hold the spindle 3 at two ends to the upper and lower connecting posts 2. After a plurality of connecting

posts 2 are serially connected via the knuckles 1 and the spindles 3, a vertical main post 100 showing a series of bends is formed. Thereafter, crossbars 5 are connected at two ends to two opposite knuckles 1 on four main posts 100, and flat shelves 6 made of, for example, glass or acrylic sheets are laid on the crossbars 5 to form a rack 200. A lowest connecting post 2a in one of the four main posts 100 is connected at its spindle 3a to a motor 9 (see Fig. 4). When the motor 9 is started, the main post 100 connected thereto is caused to pivotally turn or swing, so that the whole rack 200 is caused to turn or swing.

Please refer to Fig. 4. The lowest connecting post 2a of one of the four main posts 100 has a spindle 3a that downward extends by a predetermined length to pivotally connect to a gear 7, which is connected via a transmission belt 8 to a driving gear 91 rotatably connected to the motor 9. When the motor 9 is started, the transmission belt 8 is brought to move and thereby rotates the spindle 3a, causing the whole rack 200 to turn and swing.

Please refer to Fig. 5. To use the dynamic showing rack 200 of the present invention, first position products on the flat shelves 6, and then start the motor 9 to turn the one main post 100 connected thereto. Since the main

posts 100 are formed from a plurality of serially connected connecting posts 2 via knuckles 1, and any two connecting posts 2 at upper and lower sides of one knuckle 1 are obliquely extended in two different directions, 5 the main posts 100 actually include a plurality of continuous bends at the knuckles 1. Therefore, when one of the main posts 100 is turned, the whole rack 200 is caused to turn and swing, which would attract consumers' attention.

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Figs. 6 to 9 shows a dynamic showing rack 200 according to a second embodiment of the present invention. The second embodiment is structurally similar to the first embodiment, except that the connecting posts 2 have flat 15 upper and lower end surfaces 21, on each of which a fixing hole 22 is provided to communicate with a lateral screw hole 23, and that each of the connecting posts 2 includes a plurality of bends. After a plurality of connecting posts 2 are serially connected, with one another, a main 20 post 100 showing continuous bends is formed. When the motor 9 is started to turn one of the main posts 100 connected thereto, the whole rack 200 formed from serially connected connecting posts 2 and knuckles 1 is brought to turn and swing to attract consumers' attention.

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